THE

CHEMIST

October, 1959

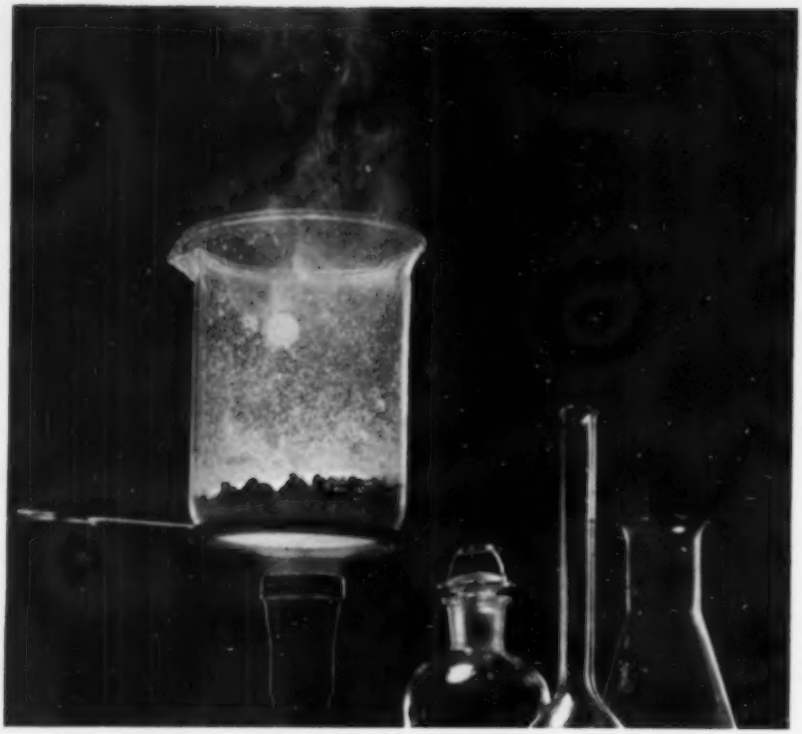
VOLUME XXXVI

NUMBER 10

Dr. Romeo P. Allard, F.A.I.C.

Receives Honor Scroll of Western Chapter. Rev. James King, S.J., is at right.

See page 369)



When the work gets hot– 900°C. hot–try VYCOR® labware

Here's glass that's 96% silica, that has a 1500° C. melting point, that takes a 900° C. thermal down shock without cracking or crazing, that costs less than pure fused quartz labware.

VYCOR ware can be used continuously at 900° C., at 1200° C. with intermittent heating, and up to 1500° C. for one-time use.

It's more stable than borosilicate glasses with hot acids, mild alkalies, water and steam.

There's a complete line of this ware listed at the back of your PYREX® labware catalog—beakers, flasks, crucibles and dishes, ground joints, tubes and tubing, and graded seals for sealing to glasses of higher expansion.

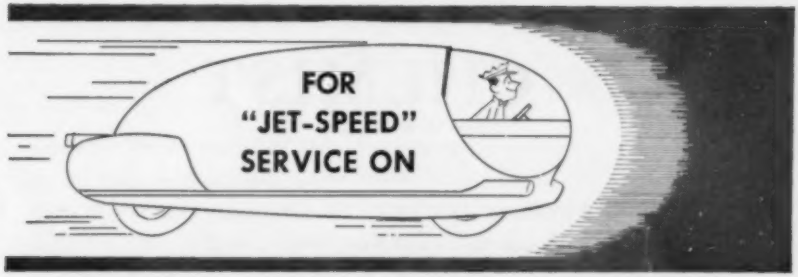
You can add VYCOR ware to your regular PYREX order for maximum discounts. Check your labware dealer for details.

In case you don't have LG-1, the PYREX labware catalog, or Supplement No. 3 to the catalog, write to 595 Crystal Street, Corning, New York.

CORNING GLASS WORKS

CORNING MEANS RESEARCH IN GLASS

PYREX® laboratory ware ... *the tested tool of modern research*



MERCK LABORATORY CHEMICALS

CALL YOUR LOCAL DISTRIBUTOR

SAVE TIME—There are some 81 laboratory supply houses in the United States, Canada and Hawaii that carry complete stocks of Merck Laboratory Chemicals. One of these supply houses is located near you. When you order from your local distributor you're hours and sometimes days ahead. He can save you time and storage space headaches, too. And of course, you can choose from the several hundreds of Merck Laboratory Chemicals which he stocks.

DON'T FORGET MERCK REAGENT SOLVENTS—Many meet spectro specifications and may be used without further tedious distillations. Their consistent U. V. transparency assures reproducible results.

Free Illustrated 16 Page Booklet

"Column Partition Chromatography" contains much practical data on this new analytical technique. Ask your Merck Laboratory Chemical Distributor for your free copy now.

Precision Tools
for Accurate Analysis

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

© Merck & Co., Inc.

The CHEMIST

Reg. U. S. Pat. Off.

Publication of

THE AMERICAN INSTITUTE OF CHEMISTS, INC.

60 East 42nd street, New York 17, N. Y.

Entered as second class matter April 8, 1936 at the Post Office at New York, N. Y., under Act of August 24, 1912. Second class postage paid at New York, N. Y. Issued monthly.

Subscription price, $3.00 a year to Members, $4.00 to Non-Members. Single copy, this issue, $0.35. Copyright, 1959 by THE AMERICAN INSTITUTE OF CHEMISTS, INC.

Vol. XXXVI October, 1959 Number 10

THE AMERICAN INSTITUTE OF CHEMISTS

Council

Officers and Directors:

President, Dr. W. E. Kuhn
President-elect, Dr. Milton Harris
Secretary, John Kotrady
Treasurer, Dr. F. A. Hessel
Chairman of the Board, Dr. Emil Ott

Councilors-at-Large and Directors:

Dr. J. A. Bjorksten
Dr. C. H. Fisher
Dr. L. A. Hall
K. M. Herstein
Dr. D. B. Keyes
Dr. S. D. Kirkpatrick
Dr. John H. Nair
Dr. L. H. Reyerson
Dr. M. Tishler

Councilors:

Dr. A. M. Buswell, *Florida Chapter*
Dr. E. B. Carmichael, *Alabama Chapter*
Dr. L. T. Eby, *New Jersey Chapter*
George F. Foy, *New York Chapter*
Dr. D. M. Gans, *Ohio Chapter*
Dr. H. B. Hass, *Past President*
Dr. James L. Jezl, *Pennsylvania Chapter*
H. A. Levey, *Louisiana Chapter*
Dr. A. Ernest MacGee, *Midwest Chapter*
Dr. O. E. May, *Piedmont Chapter*
Dr. K. W. Newman, *Western Chapter*
Albert F. Parks, *Washington Chapter*
Bernard E. Schaar, *Chicago Chapter*
G. H. Taft, *New England Chapter*
Dr. Walter W. Thomas, *Delaware Chapter*
Dr. A. H. Warth, *Baltimore Chapter*
C. A. Weltman, *Niagara Chapter*
Dr J. L. Wilson, *Twin City Chapter*

THE CHEMIST

Editor, V. F. Kimball

Advisory Board:

Dr. Joseph F. Abere
Dr. Ray P. Dinsmore
Lawrence H. Flett
Dr. Walter J. Murphy
Dr. W. George Parks
Dr. L. F. Pierce
Bernard E. Schaar
Dr. William J. Sparks
P. J. Wood

Contributing Editors:

M. R. Bhagwat
D. H. Killeffer
Dr. Frederick G. Sawyer
Florence E. Wall
Martin B. Williams

Department Editors:

Dr. Ed. F. Degering, *Condensates*
Doris Eager, *Opportunities*
Richard L. Moore, *Public Relations*
Dr. Rudolph Seiden, *Chemical Books Abroad*

• • •

Deadlines for THE CHEMIST: For the November issue the deadline is October 15.

• • •

THE AMERICAN INSTITUTE OF CHEMISTS does not necessarily endorse any of the facts or opinions advanced in articles which appear in THE CHEMIST.

IN THIS ISSUE

Editorial:

On the Retirement of Our Secretary **353**

Special AIC Announcements

New Secretary Appointed **353**

Beaver Falls Chapter Organizes **354**

Washington Chapter Officers **354**

"The 200 Club" Is Growing **354**

Special Reprints **355**

Florida Chapter Elects Officers **355**

Professional Appointments **356**

Patents at the Cross Roads, *Robert H. Rines* **357**

The Role of the Teacher in Modern Society, *Dr. Romeo P. Allard, F.A.I.C.* **363**

Dr. Allard — the Man, *Rev. James King, S.J.* **367**

Presentation to Dr. Allard **369**

About AIC Members **370**

Twin Ladders to Success, *Dr. Charles L. Thomas, F.A.I.C.* **371**

Anual Reports **374**

Report of the Chairman of the Board of Directors

Report of the Committee on Chapter Activities

Opportunities **378**

Communications **379**

TO COME IN NOVEMBER

Dr. Jack P. Montgomery, a Charter Member of the AIC, who received Honorary AIC Membership, in Tuscaloosa, Alabama, in September, presents a paper of unusual interest on "Academic Chemistry in the U. S. Between 1895 and 1920," a period of "changing times" in science. Dr. Charles D. Coryell, professor, Massachusetts Institute of Technology, presented "Chemists in Peace Engineering," at a joint meeting of the New England AIC Chapter and the Northeastern ACS Section. A condensation of this address, taken from the tape recording of the meeting, will appear.

Recommended Suppliers and Services

J. T. Baker Chemical Co. ..... *Inside Back Cover*
Busher Agency 378
Corning Glass Works *Inside Front Cover*
Johns-Manville 352
LaWall & Harrisson 380
The Lento Press 378
Arthur D. Little, Inc. 370
Merck & Company, Inc. 349
Phoenix Chemical Laboratories 369
Robinette Research Labs., Inc. 373
Foster D. Snell, Inc. 362
R. Steckler Laboratories 380
U.S. Stoneware ..... *Outside Back Cover*
U.S. Testing Company 377

Now . . . for fast, flexible gas-liquid chromatography

Here, magnified 16 times, is Chromosorb, the specially screened and treated diatomite aggregate that facilitates partition chromatography.

Johns-Manville CHROMOSORB

CHROMOSORB® gives you sharp separations and symmetrical peaks in the gas-liquid partition method of vapor chromatography. Among its many desirable properties are high absorption, stable uniform granules, easier packing, lower pressure drop, improved resolution and inertness. And, with Chromosorb's physical stability and non-adsorption, the same column packing can be used over and over.

Carefully processed from the world's purest commercially available diatomite deposit, Chromosorb is an outgrowth of the use of Celite filter aids in the earliest gas chromatography studies. For further information, write Johns-Manville, Box 14, New York 16, N. Y. In Canada, Port Credit, Ontario.

Typical Chromosorb Properties

Color	light pink
Density—loose weight—lb/cu ft	24
Specific Gravity—true	2.15
Absorption—% by weight, water	90
Moisture—% by weight, maximum	1.0
Surface Area—sq. m/gm, average	3-5
Adsorption	negligible

Johns-Manville CHROMOSORB

a product of the Celite Division

EDITORIAL

On the Retirement of Our Secretary

THE AMERICAN INSTITUTE OF CHEMISTS is the organization which deals with human relations and human understanding within the chemical profession. Our work has been made possible by the cooperation of many members with this kindly feeling, and our leadership has come from a succession of elected officers and councilors.

For many years, the necessary continuity from president to president and from one Council to another has been provided, always with kindness, wisdom, and understanding, by our Secretary, Dr. Lloyd Van Doren, Charter and Life Fellow. He has served unselfishly from November 1945 to September 1959, re-elected at intervals by an appreciative membership, until his resignation as Secretary was regretfully accepted on September 13.

Dr. Van Doren has retired to Tempe, Arizona. He resigned as Secretary because he was not the man who would try to continue in this office when distance would so separate him from his customary close participation in the affairs at our headquarters.

He will be missed as Secretary by his colleagues in the AIC, especially by the officers, who through the years have learned to lean on his knowledge, his legal talent, his warm human understanding, and his kindly advice. He will find happy associations in Tempe, near the State College of Arizona. In addition to his career in patent law, he has also spent fruitful years as a professor of chemistry.

We shall continue to regard him as a devoted officer to the profession of chemist and to THE AMERICAN INSTITUTE OF CHEMISTS. Both are richer for his many years of faithful service, from the time he and other dedicated chemists organized the AIC until this completion of some fifteen years as its secretary. With such a background, the interests of the AIC will always be topmost in his thoughts and Dr. Lloyd Van Doren will always be topmost in the thoughts of his associates in the AIC.

Special AIC Announcements

New Secretary Appointed

At the September 13 meeting of the National AIC Council, the resignation of Dr. Lloyd Van Doren as secretary was regretfully accepted. (See editorial.) By unanimous vote, John Kotrady, F.A.I.C., was appointed to fill the position of secretary during the remainder of Dr. Van Doren's term of office, which expires in May 1960.

John Kotrady was born in Du-

quesne, Pa., Feb. 8, 1911. He received the B.S. degree from Grove City College, Grove City, Pa., in 1933, and until 1935, taught algebra, chemistry, commercial law and business English in Mayville High School, Mayville, N. Y. He married Helen Berndtson of Mayville, May 31, 1936. They reside at 13 Wodenethe Drive, Beacon, N. Y. Since June 1, 1936, he has been with Texaco Inc.

Mr. Kotrady's many chemical extra-curricular activities have been and are centered in the New York, Mid-Hudson Sections, and the national American Chemical Society and the New York AIC Chapter and the national AIC Council. He was chairman of the New York AIC Chapter in 1954-55 and general chairman of the 1959 Annual AIC meeting in Atlantic City. He is treasurer and member of the Board of Directors of the New York ACS Section and councilor from the New York AIC Chapter to the national AIC Council. He is a member of the Society of Chemical Industry, The Chemists' Club, and three honorary fraternities.

Beaver Falls Chapter Organizes

The new Beaver Falls AIC Chapter has held two organizational meetings. Temporary officers were chosen to serve until permanent officers are elected at a meeting to be held in November. The interim officers are:

Chairman, Clark E. Thorp, Fiber Products Research Center, Beaver Falls, N. Y.
Secretary, Mrs. Myra Menti, Main St., Beaver Falls, N. Y.
National Council Representative, Dr. William S. Wagner, Beaver Falls, N. Y.
Committee to Prepare Constitution: Paul E. LaValley, chairman, Beaver Falls, N. Y.; Dr. Rudolph Schatzel, Rome, N. Y., and Dr. Fritz Rosenthal, Watertown, N. Y.
Committee to Nominate Permanent Officers: Beaumont Thomas, chairman, Watertown, N. Y.; Glen P. Huppke, Beaver Falls, N. Y., and John C. Parcell, Beaver Falls, N. Y.

Washington Chapter Officers

The Washington Chapter has elected the following officers for the 1959-60 fiscal year:

President, Albert F. Parks, Bureau of Customs, Internal Revenue Building, Washington 25, D. C.
Vice President, Dr. Clem O. Miller, 6 Nicholson Road, Falls Church, Va.
Treasurer, Robert C. Watson, 9507 Justine Drive, Annandale, Va.
Secretary, Dr. Anthony M. Schwartz, Harris Research Labs., 1246 Taylor St., N.W., Washington 11, D. C.
National Council Representative, Albert F. Parks

"The 200 Club" Is Growing

The Committee on Membership and the Committee on New Chapters and Expansion are organizing a "200 Club," to be composed of AIC members who will try to bring in ten new members this year. So far, the following persons are on the list, and one of them, William D. Guthrie, F.A.I.C., has already brought in more than ten new members:

Dr. George A. Abbott, F.A.I.C.
Dr. Philip 3. Baker, F.A.I.C.
Dr. Max Bender, F.A.I.C.
Dr. Johan A. Bjorksten, F.A.I.C.
Dr. John J. Bohrer, F.A.I.C.
Dr. Stephen D. Bruck, F.A.I.C.

Dr. Emmett B. Carmichael, F.A.I.C.
Stanley W. Comer, M.A.I.C.
Billie Crew, M.A.I.C.
Dr. Frank A. DeMelfy, F.A.I.C.
Dr. James D. D'Ianni, F.A.I.C.
Dr. Charles A. Dille, F.A.I.C.
Dr. Ray P. Dinsmore, Hon. AIC
Dr. (Brother) Edward Doody, F.A.I.C.
Dr. Lawrence T. Eby, F.A.I.C.
Dr. John Eibert, Jr., F.A.I.C.
Arthur D. Etienne, F.A.I.C.
Lawrence Flett, Hon. AIC
Dr. Robert W. Freedman, F.A.I.C.
William D. Guthrie, F.A.I.C.
Harry L. Hall, M.A.I.C.
Dr. Milton Harris, F.A.I.C.
Dr. Henry B. Hass, F.A.I.C.
James E. Henning, F.A.I.C.
Dr. John L. Hickson, F.A.I.C.
Malvern J. Hiler, F.A.I.C.
Charles Holdt, F.A.I.C.
Albert C. Holler, F.A.I.C.
Dr. Kirby E. Jackson, F.A.I.C.
John M. Jernigan, F.A.I.C.
Dr. James L. Jezl, F.A.I.C.
Thomas J. Kehoe, F.A.I.C.
D. H. Killeffer, F.A.I.C.
Dr. Robert H. King, F.A.I.C.
Dr. Sidney D. Kirkpatrick, Hon. AIC
Robert E. Lacey, F.A.I.C.
Dr. Wilbur A. Lazier, F.A.I.C.
Dr. Reid H. Leonard, F.A.I.C.
Harold A. Levey, Hon. AIC
Dr. Paul Lipsitz, F.A.I.C.
Heino A. Luts, M.A.I.C.
Dr. A. Ernest MacGee, F.A.I.C.
Dr. Pauline B. Mack, F.A.I.C.
Dr. John F. Mahoney, F.A.I.C.
Dr. Paul Melius, A.A.I.C.
Richard L. Moore, F.A.I.C.
Dr. Irving E. Muskat, F.A.I.C.
Robert A. Nanz, F.A.I.C.
Dr. John M. O'Neill, M.A.I.C.
Charles R. Outterson, F.A.I.C.
Phil T. Pafford, M.A.I.C.
Albert F. Parks, F.A.I.C.
Dr. W. George Parks, Hon. AIC
Dr. L. F. Pierce, F.A.I.C.
Arthur E. Raeuber, Jr., F.A.I.C.
Dr. Malcolm M. Renfrew, F.A.I.C.
Dr. Dean R. Rexford, F.A.I.C.
Hillary Robinette, F.A.I.C.
Thomas J. Rollins, F.A.I.C.
Dr. Robert D. Schwartz, F.A.I.C.
Herbert F. Schwarz, F.A.I.C.
Dr. Rudolph Seiden, F.A.I.C.
Henry G. Sellers, Jr., F.A.I.C.
Merle E. Sibert, F.A.I.C.
Dr. John A. Southern, F.A.I.C.
Dr. Samuel C. Spalding, F.A.I.C.
James W. Stallings, F.A.I.C.
Dr. William J. Sparks, Hon. AIC
Clark E. Thorp, F.A.I.C.
Dr. Albin H. Warth, F.A.I.C.
Martin B. Williams, F.A.I.C.
Gene A. Zerlaut, M.A.I.C.

Special Reprints

AIC President Kuhn announces that a limited number of reprints of three talks, presented at our 36th Annual Meeting, are available to AIC members who may wish to give them to potential new members, as examples of the types of papers presented at AIC meetings.

The three papers are: "American Education Meeting the Soviet Challenge," by Dr. William E. Stevenson; "The Chemist and National Defense," by Maj. Gen. Marshall Stubbs, and "The Chemist and the World Economy," by Dr. R. H. Rowntree. Request this reprint from THE AMERICAN INSTITUTE OF CHEMISTS, 60 E. 42nd St., New York 17, N. Y.

Florida Chapter Elects Officers

The new Florida Chapter announces that it has elected the following officers:

Chairman, D. H. Killeffer,
Post Office Box 443, Clearwater, Fla.
Chairman-elect, Dr. Armin H. Gropp,
1715 N.W. 10th Terrace,
Gainesville, Fla.
Secretary, Robert A. Nanz,
President, Florida Chemists &
Engineers, Inc., 645 Rugby Ave.,
Orlando, Fla.
Treasurer, Dr. Vlon N. Morris,
1095 Druid Drive, Maitland, Fla.

National Council Representative,
Dr. Arthur M. Buswell, 2713 South West 5th Place, Gainesville, Fla.
Membership Committee Chairman,
Robert A. Nanz
Committee on Constitution: Dr. A. H. Gropp, Dr. A. M. Buswell, and Dr. F. B. Smith

Professional Appointments

Oct. 1, 1959. Chicago, Ill. La Salle Hotel, Parlor F. AIC Board of Directors and National Council. Luncheon meeting. 12 noon.

Oct. 1, 1959. Chicago, Ill. Chicago AIC Chapter Meeting. Presentation of the Honor Scroll of the Chapter to Dr. Johan Bjorksten, F.A.I.C., president, Bjorksten Research Labs., Madison 1, Wis. AIC President, Dr. Wayne E. Kuhn, will present the Scroll.

Oct. 6, 1959. Wilmington, Delaware, Kent Manor Inn. Meeting of Delaware Chapter. Social hour, 6:15 p.m. Dinner 7:00 p.m. Speaker, Prof. Charles C. Price, F.A.I.C., professor of chemistry, University of Pennsylvania, Philadelphia, Pa. Subject, "Science Education in the Atomic Age." For information, Dr. Stephen D. Bruck, E. I. du Pont de Nemours & Co., Inc. Experimental Sta., Carothers Research Lab., Wilmington, Del.

Oct. 6, 1959. Huntsville, Ala. Dale's Restaurant, South Memorial Parkway, US 231. Meeting of Alabama Chapter. Social Hour 6:00 p.m. Dinner 7:00 p.m. Meeting 8:00 p.m. Speaker, AIC President, Dr. Wayne E. Kuhn.

Oct. 13, 1959. Philadelphia, Pa. Engineers' Club. Meeting of Pennsylvania Chapter. Dinner 6:30 p.m. Talk 8:00 p.m. Speaker, Dr. C. L. Mantell, Consulting Chemical Engineer, New York, N. Y. Subject: "The Role of the Chemist and the Chemical Engineer in Small Business. For reservations: Dr. E. M. Kipp, Foote Mineral Co., Berwyn, Pa. (NIagara 4-6800).

Oct. 13, 1959. Washington, D. C. O'Donnell's Sea Grill, 1221 E St., N.W. Meeting of Washington Chapter. Luncheon 12:15 p.m. Speaker, Dr. Edward Wickers, associate director, National Bureau of Standards. Report on the 20th Conference of IUPAC and the 17th International Congress of Pure and Applied Chemistry. For information, Dr. Anthony M. Schwartz, Harris Research Labs., 1246 Taylor St., N.W., Washington 11, D. C.

Oct. 20 or 21, 1959. Clearwater, Fla. Presentation of Charter to new Florida Chapter. Speaker, AIC President Dr. Wayne E. Kuhn. For information: D. H. Killeffer, P.O. Box 443, Clearwater, Fla.

Oct. 22, 1959. Atlanta, Georgia. First Anniversary Meeting of Piedmont Chapter. Speaker, AIC President, Dr. Wayne E. Kuhn. For information, Dr. Charles T. Lester, Dean, Graduate School, Emory University, Emory, Georgia.

Nov. 30, 1959. Kansas City, Mo. Rockhurst College. Midwest AIC Chapter meeting. Dinner (Cafeteria) 6:30 p.m. Meeting 7:30 p.m. Annual Elections.

Dec. 1959 (exact date to be announced). **Wilmington, Delaware,** Kent Manor Inn. Meeting of Delaware Chapter. Social hour, 6:15 p.m. Dinner 7:00 p.m. Speaker, Dr. William J. Sparks, Hon. AIC, scientific advisor, Esso Research & Engineering Co., Linden, N. J. For information: Dr. Stephen D. Bruck, E. I. du Pont de Nemours & Co., Inc., Experimental Sta., Carothers Research Lab., Wilmington, Del.

Feb. 2, 1960. Wilmington, Delaware, Kent Manor Inn. Meeting of Delaware Chapter. Social hour, 6:15 p.m. Dinner 7:00 p.m. Speaker Dr. Ivor Griffith, F.A.I.C., president, Philadelphia College of Pharmacy & Science, Philadelphia 4, Pa. For information, Dr. Stephen D. Bruck, E. I. du Pont de Nemours & Co., Inc., Experimental Sta., Carothers Research Lab., Wilmington, Del.

May 11-13, 1960. Minneapolis, Minn. Radisson Hotel. 37th Annual AIC Meeting. The Twin City Chapter will be our host.

May 11-12, 1961. Washington, D. C. Statler Hotel, 38th Annual AIC Meeting. The Washington Chapter will be our Host.

Scientific Glass Apparatus Co., Inc., Bloomfield, N. J., has built a new branch plant in Centex Industrial Park, Elk Grove Village, Illinois, which will serve as a Midwest warehouse for laboratory supplies.

Patents at the Cross Roads

Robert H. Rines
Rines and Rines, Boston, Mass.

(Presented before a joint meeting of the New England AIC Chapter and the Northeastern Section of the American Chemical Society, Cambridge, Mass., Oct. 9, 1958. [Here condensed and edited from a tape recording made at the meeting.])

WHEN our founding fathers first formed the Union, they did a very rare thing. In the Constitution, they authorized the creation of a property right—now manifest in patents—in Article I, Sec. 8. This is the same Constitution that contains the Bill of Rights, including the 5th Amendment and all the other safeguards that the courts are scrupulous in enforcing.

In 1949, following an era where the U. S. Supreme Court had struck down patent after patent, even stripping men like Marconi, years after his invention, of the title of inventor, the patent climate became so unbearable that three of the justices wrote a dissenting opinion from a Supreme Court decision in which a patent had been thrown out principally upon the writings of Cellini in the 16th Century. The Court said there was no invention. All one had to do was to read this Cellini publication from the 16th Century and the patent was anticipated. The late Justice Jackson protested against this treatment of patents, frankly stating that "the only patent that is valid is one which this Court has not been able to get its hands on." [1] He was supported in this dissent by Justices Frankfurter and Burton.

The patent problem that next came before the Supreme Court was a chemical patent case. In that case, an invention had been made under the following circumstances. A large company had set its chemists upon the problem of trying all sorts of combinations of chemical elements, particularly alkaline earth metal silicates and fluorides, for the purpose of making a better welding flux. Having gone through the process of trial and error, they finally came up with a particular flux and process of welding therewith. They filed for and obtained a patent.

Riding the crest of the hostility of the courts towards patents, an infringer employed this invention. Suit was accordingly brought. The patent was sustained by the District Court, except that the Court invalidated some claims as too broad and indefinite. The infringer appealed to the Court of Appeals, which not only sustained the claims found valid by the District

1. Jungerson v. Ostby & Barton Co., 335 U. S. 560,572

Court, but re-instated even the very broad claims.

The case came to the U. S. Supreme Court just after Justice Jackson had frankly exposed the "strong passion in this Court for striking them (patents) down. . . . " Apparently sensitive, a unanimous Supreme Court found this process of trying many possible combinations and permutations of chemical elements to involve patentable invention. The unanimous Court decision held the patent valid and infringed, though it followed the District Court in refusing to sustain the broad claims. Justices Black and Douglas even found a "flash of creative genius"[2] — a test of an earlier decision.[3]

This brought up a very interesting point. It so happened that the defendant was not using the alkaline earth metal silicate of the narrow sustained patent claims, but was using manganese. The infringer accordingly asked for a rehearing because only the invalid broad claims would have embraced manganese.

The Court was thus faced with a dilemma. Those judges who had apparently been so ready to show the world that they were not hostile to patents after all, were now called upon to do something contrary to their oft-expressed views, namely, to enforce "a monopoly . . . on an . . . unpatentable article." So the Court again split in its views. Justice Jackson carried a majority of the Court, holding that manganese was the equivalent of the alkaline earth of the valid claims, but two justices dissented.

We have had what I consider to be a shameful record since that time in the U. S. Supreme Court.

What do the lower courts do? In a rather frank statement before a Committee of Congress, Judge Learned Hand, one of our more able Federal judges, frankly confessed that, in following the policy of throwing out patent after patent, the lower courts "were doing what we thought our orders were"[4] from the Supreme Court.

Thus, lawyers, chemists, physicists and engineers were going to great effort to prepare patent cases; to file them in the Patent Office in good faith; to prosecute them in the courts; and the judges were not even listening to what was said. They "were doing what we thought our orders were."

It is important to understand who was issuing these orders. We have on the bench of the Supreme Court some judges who believe that their position is not that of a lawyer or a judge,

2. Graver Tank & Mfg. Co. Inc. *et al v.* Linde Air Products Co. 336 U. S. 271, 281.

3. Cuno Engineering Corp. *v.* Automatic Devices Corp., 314 U. S. 84.

4. Subcommittee on Patents, Trademarks and Copyrights of the Senate Committee on the Judiciary, Study No. 1, 1956, p. 18.

alone, but that, also, of "statesman."[5] Being "statesmen," they have evolved the philosophy that Constitutional law—including the interpretation of the Constitution and of our statutes—is not bound by legal precedent. It is to be determined by what the personal views of each judge may be. I quote from Justice Douglas' recent book[5] that the judge "comes to formulate *his own views*" so that "precedent in Constitutional law is a *personal matter* for each judge who comes along." (Emphasis added.)

Now lest people of scientific training do not appreciate the significance of this, it means that we have now become a nation of men and not of laws. Law no longer controls. Whatever the views may be of these self-appointed "statesmen," who are not even elected by the people, now becomes the law of the land and, as later shown, there is little we can apparently do about it if we continue to take this lying down.

The Congress, in 1952, passed a new Patent Act, one of the express purposes of which was to undo what the Supreme Court had been doing to patents; and, particularly, to lay to rest the "flash of creative genius" test of invention. A few courts have held that the 1952 Act has restored the law back where it was several decades ago. Other courts, however, have held that the 1952 Act has done nothing but codify the law, leaving the same standards of invention. So there are jurisdictions throughout the land where the patentee is getting the same kind of treatment he received before Congress spoke; and the Supreme Court has ducked every single test case to date as to what this new Patent Act of 1952 really means. The Supreme Court has just refused to hear patent cases.

What an open invitation to piracy! This is particularly notorious in the chemical and other fields for the small fellow; the fellow who gets his start by his own creative efforts, his own research and development, and who requires sympathetic protection against an infringer who, without cost to itself, copies the invention.

How will you encourage the Westinghouse of tomorrow? A Bell? An Edison? A Land? Where would these companies start today? Not likely through the impetus of a patent system and the fruits of one's own inventive talent; or by risk capital from an entrepreneur in the old American tradition. Instead, companies are started by our Government development contracts. The instant the Government begins to cut back, however, we are faced with unemployment. Here we have a serious economic problem for chemists and chemical engineers, as well as others, for so long as a company is dependent upon the Government, it is restricted in the kind of work it can do and it is in

5. "We The Judges," Justice Douglas, 1956, p. 255, 431.

a precarious economic position.

The Courts are, I feel, in some measure, responsible for this situation, because many a would-be entrepreneur, who used to back the inventor, declines to do so today under conditions where patents are unenforceable.

What has been done to try to remedy the situation? A lot of people are thinking about it. They do not quite know what to do. Congress legislates. The Supreme Court ignores.

Today one has about a 25% chance of having one's patent sustained and infringement stopped in the District Courts of our land. In the Courts of Appeals, one has less than a 15% chance of winning. And one has no chance in the U. S. Supreme Court. The odds are stacked against the inventor and entrepreneur. If technical and business people feel there is anything worthwhile in the patent system for the public, for the engineers, for the scientists, and for the entrepreneur, they are urged to look into this matter and let their voices be heard.

What can be done about it? People have suggested improvement in the patent searching system, as by computers in the case of chemical cases, which could reduce the chance of an examiner missing some pertinent prior art. The theory is that this will give the Court more confidence in the thoroughness of the search. I have reviewed recent cases in the Courts of Appeals and find that in only about 16% of those cases did the Court throw out the patent because it thought the Patent Office search was not adequate. In the rest of the cases, the Court was apparently thoroughly satisfied with the Patent Office search.

Another idea advanced is to institute a series of oppositions. Let the Patent Office publish the fact that it is going to issue a patent, and let anyone who so desires give the Patent Office reasons why the patent should not be granted. When the patent comes through, it is argued, the judge will then feel it must be truly valid because the public has had its say.

We can examine what has happened abroad in this connection, because there they do have such opposition proceedings. In Germany, close to our country in industrial aggressiveness and in strict patent examination system, more than one-third of all patent applications that are passed through the Patent Office are opposed, as a matter of course, by the various companies. If we had such a system, I would guess that a much larger percent of patents would be opposed. It takes long enough to get a patent through, now, and in too many cases by the time it comes through, it is worthless.

This seems to me a very unrealistic and unscientific approach, particularly if the real cause of our difficulty is a "passion" on the part of the courts to strike down patents. It then mat-

ters not how well you search, nor how much opposition you have in the Patent Office, nor how much presumption of validity you set forth in the statutes.

What, then, can scientists and engineers do about it?

One proposal is for Congress to express itself clearly and unmistakably as desirous of having patents sustained wherever feasible, and with the same vigor as Courts apply to preventing encroachment upon personal liberties —guaranteed under the same Constitution.

Another suggestion would involve the appointment of judges who are sympathetic to the problems of inventors and business—perhaps, even, judges who, in this mid-twentieth century, are educated in science as well as law, and who are experienced in inventive processes, and sympathetic thereto.

On such a basis, what about the abuses of Government itself? What about a Government that takes the inventions or plans, particularly of the smaller company or individual, and then lets the contract out to somebody else, leaving the smaller company to its remedy, if any, in the Court of Claims, in full knowledge that the chances are stacked against the plaintiff. Establish a pattern where the Court is going to sustain an individual or a company in a proper case, and Government will be wary about riding roughshod over the small company or individual. Similarly, the infringer, if he knows one can get relief from piracy in the Courts, will be very reluctant not to enter into the proper kind of negotiations, or to use his own ingenuity, rather than to copy and litigate.

Does it not seem strange, moreover, that the technical community of this country should be judged, and its property rights should be determined, by people who have no appreciation for technical problems and no understanding thereof or sympathy therefor? Here is a class that has no representation on the bench. Apart from the patent picture, we have many serious and growing problems which could be resolved far better by judges that understand the scientist, his twist of mind, and problems.

I feel the time is long since past when the chemists and other scientific people, should make up their minds. If they find, upon investigation, that the patent system is something worthwhile, and that they want to preserve it and improve it, they should collectively take action. Government today is receptive to many of the warnings of the scientist. The decision rests with that body of business people, engineering people and scientific people who make and promote inventions. If they will reflect upon the kind of propositions that are being considered to try to remedy the problem—oppositions, improved searches, and other similar proposals—and then reflect

upon Justice Jackson's words that "the only patent that is valid is one which this Court has not been able to get its hands on," they cannot help but conclude that more drastic action is required if we are to sustain and improve upon what has been one of the important contributing factors in the great economy of this country.

Scientist Exposes the 'Beat Generation'

"We have hardly scratched the surface in understanding atomic power and its applications. Nuclear energy is only one of the fields from the humanities through the sciences, where so much remains to be done. The young people of today have a world to conquer, for we now see only dim outlines of the vast unknowns. Even in the fields where we think we are experts, we are probably only seeing shadows of the ultimate truths.

"Yet we read and hear so much about the attitudes of young people today. Recently on the TV program, *Twentieth Century* there were interviews with college students at a major university. Their negative outlook has been made into a *prima facie* case of college level defeatism by the generation labelers.

"From this small sampling of student opinion, we could be led to believe that the average college student today thinks there are no more worlds to conquer; that all of the great things have been done and only a sterile conformity lies ahead. We are told he sees a future of boredom, as a small cog in a big organization, earning a comfortable salary, living in a split level home and a cultural vacuum, just waiting for social security. For him there is no future, there is only a today, as part of a 'beat generation.'

"Surely there is a handful of educated young people who fit this description. There are always those who would escape the reality of the day's enormous problems and would wear any fashionable disguise to hide indolence. In self-justification they would claim that theirs is a mass movement.

—John W. Simpson
Speaking at Seton Hill College, Greensburg, Pa.

FOSTER D. SNELL INC
RESEARCH AND DEVELOPMENT CONSULTANTS

Completely staffed with over 100 specialists, equipped with 10 stories of laboratories, backed by 36 years of experience in many fields:

Product Development - Analyses
Engineering - Market Research
Physical Measurement - Toxicology
Bacteriology - Animal Work
Food Technology

Bulletins and detailed information on request without obligation. Call WAtkins 4-8800 or write to:

FOSTER D. SNELL, INC.
29 W. 15 St., N.Y. 11, N.Y.

The Role of the Teacher in Modern Society

Dr. Romeo P. Allard, F.A.I.C.

Chairman, Department of Chemistry, Loyola University, Los Angeles 45, *Calif.*

(Presented when Dr. Allard received the Honor Scroll of the Western AIC Chapter, May 27, 1959, at Pasadena, Calif.)

THE history of our country shows the importance of our natural resources—their riches and variety, and more, the use made of these resources. One of these is our human resources, the diversity of aptitude, inventiveness, interest, and ambitions.

Recently, many people far removed from the academic world have become concerned with education. More and more public officials and business men have come to realize that our educational capabilities must keep pace with our national needs, and that the educational problem belongs not merely to a small segment of society, but to all society, for it bears directly upon the preservation of our way of life.

Never in the history of our nation has a sound educational system assumed the importance it has today. I do not refer to the clamor of some that the Russians are doing better than we are in this respect, for I do not believe that. I think instead of the increasing complexity of all aspects of our lives; scientifically, politically, economically, sociologically, etc.

All people are convinced that what happens to American education will eventually be reflected in America—a realization that education is the key to the future. All recognize the direct link between education and business, between education and social growth, as well as the interdependence between them.

The measure of our educational system is to be found in the capacity of our system to develop highly educated men and women and thus to use to the utmost our human resources. As we exhaust material resources; as machines turn out more goods; as the life span lengthens, we have need of man thinking—thinking fundamentally, philosophically, morally.

From earliest time the principal asset of a university has been its faculty. So also today, we should forget the buildings, the football team, and recognize that a university is a community of scholars—teachers and students. The teacher is the voice of the university, for it is through the teacher that its message is carried. Thus, the teacher serves society by thinking and by stimulating others to think. The teacher, then, is a vital source of social leadership and social strength. I shall consider the attributes of a good teacher, the responsibilities, the

essence of good teaching, and outline some of the procedures which a good teacher uses.

"Teacher" in the dictionary refers to one whose occupation is to teach, and under the verb "to teach" there are many synonyms, as to instruct, to educate, to train, to discipline, and to school.

To teach implies the imparting of information so others may learn; to instruct, the methodical furnishing of knowledge; to educate, the bringing out of capacities latent in the individual; to train, such subjection of the pupil as will fit him for the state of mind; to discipline, subordination for the sake of controlling; to school, a training or discipline, especially in that which is hard to bear. In addition to these facets of teaching there are many attributes which, when blended like the many instruments of a symphony orchestra, make a well-rounded teacher.

A good teacher is an able salesman. He has to convince the pupils that the course he is teaching is a necessary one and that it has a significant contribution to make to the student's overall education, having been included in the curriculum for the purpose of achieving a well defined educational goal. Once the pupils are convinced, the work of the teacher is made much easier.

A good teacher should have a standard for his course which is equal to if not better than the accepted norm in his field.

The good teacher must be a scholar, knowing well his subject and growing with it. He must feel a strong instinct to share with others. He must transcend his subject, partly by knowing its relation to other areas, partly by a sense of its value in terms of human life and social betterment. Everyone recognizes that effective teaching is a highly varying process, affected in form by many factors, such as the ability of the student, the size of the class, the type of subject, and the personality of the instructor. However, despite these inherent difficulties, certain guide lines may be discerned.

The business of the teacher is, in brief, to expound to the able what is known about the great areas of human knowledge; to explore what is not known; in a word, to stimulate the student to pursue truth.

The good teacher must be interested in the mind and spirit of every individual exposed to his learning, his observations and his experiences, distinguishing each as a human being. Thus will he be able to encourage the young person's growth in mental maturity. Students are not mere receptive or unreceptive units of an audience, all alike. Every student is a bundle of talents, potentials, defects, and possibilities; and should excite the teacher with his opportunities.

The good teacher welcomes this occasion to take part in expanding this

young person's knowledge of the world; in awakening him to the enjoyment and appreciation of nature; in extending and correcting his scale of values; in helping him to mature his skill and the use of his intellectual powers. The hard core of the learning process is a close association of minds. There is no single method of achieving this association. Some teachers are so skilled in the art of communication that they can make each student in a large class feel the bond of understanding which learning requires. Other teachers work most effectively with small groups.

If a teacher is to meet his obligation adequately, he must do more than transmit the accumulated knowledge of the past. He must foster in the student flexible intellects, equipped to recognize new facts and new conditions; trained to use and to trust proved methods of analysis, and educated to understand the logic of the scientific method. These things a teacher can do only by teaching the students to get the facts, to confirm them, and then by the exercise of the mental abilities to think through to a conclusion—a conclusion that is their own.

A teacher is responsible to his students not only for developing the strength of the student, but also in searching out his weaknesses, and by aiding the student to evaluate each, to guide the student to that field of human endeavor best suited to him. By so doing, the student will be assured of the greatest possibility for success and happiness and it will enable him to make his maximum contribution to society.

The lot of the teacher is not made easier when the range of intelligence and capacity of the students is wide. In setting the pace in the classroom, consideration is often given to the slow but yet capable student. If the teacher directs his lecture to the better students, the average student may need outside help to survive. On the other hand, the better students will get bored if the lectures are directed to the average students. A compromise must be reached. All the while, the teacher should keep his pace so that all students have to scratch to keep up with him, some harder than others. When the distance is too great, the students drop by the wayside. The program can be one of screening or development. The latter is more difficult, more exacting, and requires delicate techniques on the part of the teacher. The superior teacher must seek to develop every facet of the student's abilities; his intellectual ability, his emotional maturity, and his spiritual values. Many of these traits are not developed in the classroom, but by co-curricular activities. Reasonable participation in these activities is not only desirable, but should be promoted.

The personality and attitude of the teacher are as important as his knowl-

edge when it comes to getting results in teaching. Teaching involves the interplay of personalities—interpersonal dynamics. Teaching is a human art. It has to do with the growth and development of young men and women. I have known men who were renowned scholars, but whose attitude and personality made them poor teachers. They had knowledge, but they were not able to work effectively with young people.

A teacher must suggest rather than insist; inspire rather than dominate; direct from behind the scenes in such a way that the idea and the ensuing action emanate from the student rather than from the teacher. He must be a perpetual student. He does not teach ideas; he teaches students to have ideas. If at the end of a course, a teacher can feel that he has developed the mind of the student so that through his own efforts he will go on from where the teacher left off; if he has taught habits of concise and independent thinking—then he can feel that he has been successful.

A university professor is engaged in the activities of teaching and research. It is unfortunate that research is frequently considered an alternative to good teaching and *vice versa*. In my opinion excellent instruction in the sense of stimulating growth in the student is invariably accompanied by some type of research on the part of the teacher.

If we are to do justice to the individual we must seek the kind of education which will open his eyes, stimulate his mind, and unlock his potentialities. There is no formula for this. We have not reached a crystallization point in thought and action about our educational procedures. Not so long ago a bright young man could learn everything that was known about chemistry in a few short years. Today, one can spend a lifetime studying a particular phase of a branch of chemistry and not begin to know all of the answers.

During the past ten years, the advances in the technology of mechanical components, such as computers, have led to rapid increases in system complexity. This is true in chemistry, in mechanics, etc. Our knowledge of man has not kept pace. This deficiency results from the fact that only primitive methods are available for measuring the effectiveness of various procedures in which man is the principal factor, because there is insufficient information regarding man's perception, memory, reasoning, and decision making capabilities.

We live in trying times. We all need to learn to adjust ourselves to change. Technology will continue to bring about increasing changes in all aspects of our material lives. Back of all the changes, however, lies the human spirit. To make technological advances serve the cause of human freedom, we need to develop clearer insight and a deep appreciation of our

place in society.

The most profound satisfactions in life flow out of helping others. Teaching is an unselfish service which finds its reward in guiding and directing growing lives. The teacher who is outstandingly successful develops in his students a genuine interest in human welfare. America in the years to come will esteem the teacher and become aware of his true worth. These men are dedicated to a search for truth, and to its communication to young people. They are inspired by a love of learning, a devotion to scholarship, a commitment to things of the mind and spirit. By their teaching they transmit this heritage to a new generation, so that each oncoming one may climb a little higher.

This, then, is the role of the teacher in modern society.

Dr. Allard — the Man

Rev. James King, S.J.

Dean, College of Arts and Sciences, Loyola University, Los Angeles 45, *Calif.*

(Presented when Dr. R. P. Allard received the Honor Scroll of the Western Chapter, May 27, 1959, at Pasadena, Calif.)

THIS country is crying out for excellence in all fields of endeavor; in science, as well as in others. But it does not seem content that its giants be proficient in their chosen field only . . . It wants them to be, it expects them to be, well adjusted human beings also.

Dr. Romeo P. Allard is a Christian, whose life gives splendid evidence that there need be no conflict between science and religion. In his youth in New Hampshire, when he first realized that he wished to be a chemist, he was offered a scholarship by his State University. Though his family was not well off, he chose to forego this relatively inexpensive way of achieving his objectives, and began working to save enough to finance his way through Notre Dame University in Indiana. He worked three years before he saved enough to start college, and he worked in a nearby hospital during undergraduate years to remain in college.

Working did not interfere with his academic success, because in 1931, when he graduated in chemical engineering, he received the O'Brien prize for the highest academic average for the four years of college. He received the Doctor's degree in 1934, and went on to Columbia University with aid from The Chemists' Club of New York. Here he worked with Dr. Harold Urey, Nobel laureate. It was during this year that Dr. Allard accepted an appointment to the faculty at Loyola.

In December 1935, his first Christmas vacation after coming to Loyola,

he returned to Indiana to marry his college sweetheart. Mrs. Allard had attended St. Mary's College just across the lake from Notre Dame. Dr. Allard, during his whole adult life, has given his talents to the service of Christian education. His example, and that of his devoted wife, has influenced their two sons, one of whom is a student of theology, destined for the Diocese of Los Angeles, at the Cardinal's Seminary in Camarillo, while the other is an upper classman at Notre Dame University.

Dr. Allard is a man of enthusiasm. He would need to be to have come to Loyola in 1935. At that time, California (as the rest of the country) was struggling with the depression. Loyola, a product of the preceding boom, was very poor and very small. The Chemistry Department was only a service department for students of the liberal arts. It lacked space and equipment. It was a real challenge. During 24 years of devoted service, Dr. Allard has acquired a young, energetic, and well qualified faculty, partly from among his former students; he has developed a curriculum which has attracted able students and produced numerous capable research men. His efforts have merited the approval of his colleagues in the American Chemical Society. He has done this at great personal sacrifice, because he has accepted, during all these years, a salary in no way comparable to salaries paid by industry to men of his training, experience, and enthusiasm.

Dr. Allard is a methodical person. He achieves his objectives in accordance with a plan. First, his curriculum; then his faculty; then his students. The administrative officers of the University, his faculty, and students, all respect his methodical approach to his and their problems. When his undergraduate program was finally established, he introduced his plans for research, at first among his faculty, then among his students. This year, all of his graduates will continue on research fellowships or in professional schools.

One does not pass smoothly through life unless he has a sense of humor. Dr. Allard has a sense of humor which is evident, not only from the true affection manifested towards him by his faculty and students, but by the fact that over the years he has been a popular Brother Elk. He has served the men of his fraternity through all the chairs, and is this year serving as exalted ruler.

Finally, most importantly from my point of view, Dr. Allard is a teacher; he is a molder of men. Recently I was asked by the president of the university to assemble material for the Chemical Manufacturer's Association, on Dr. Allard. (Each year the Association distributes prizes to men who have done inspirational teaching for 15 years or more.) I knew that Dr. Allard was a fine teacher, but I

did not realize that his pupils held him in such high esteem until the testimonial letters began to arrive. Not only were these men, many of them now distinguished in their own right, grateful for the classroom instruction, but for the personal, out-of-class assistance received in some cases through many years after graduation.

And so, we salute a chemist who:

C 1. is a Christian gentleman
H 2. with a fine sense of Humor
E 3. who is Enthusiastic
M 4. who is Methodical
I 5. who is an Inspiration to his peers as well as to his pupils
S 6. who is a Sincere and sympathetic advisor
T 7. and who, above all, is a revered Teacher.

Presentation to Dr. Allard

THE Honor Scroll of the Western Chapter of THE AMERICAN INSTITUTE OF CHEMISTS was presented to Dr. R. P. Allard, chairman, Department of Chemistry, Loyola University, Los Angeles 45, California, at a meeting held May 27, 1959, at the Hotel Green in Pasadena.

Thomas J. Kehoe of Beckman Instruments, Inc., chairman of the Chapter, presided.

Rev. James King, S.J., dean, College of Arts and Sciences of Loyola University, spoke on "Dr. Allard—the Man." Thomas J. Rollins, director, Keldon Research Corp., Los Angeles 54, Calif., spoke on "Dr. Allard —the Scientist." Dr. Allard accepted the Honor Scroll with an address on, "The Role of the Teacher in Modern Society." (See preceding pages.)

The citation on the Honor Scroll reads:

To Dr. Romeo P. Allard

For his dedication to his teaching, promotion, and development of his profession; for his concern and attention to those within his profession and for his leadership within his community.

The 27th Exposition of Chemical Industries will be held at the New York Coliseum, Nov. 30-Dec. 4, 1959. Diagrams of available space are available from E. K. Stevens, Manager, 480 Lexington Ave., New York 17, N. Y.

Aries Associates, Inc., recently consolidated its laboratories and offices and moved into larger quarters at 225 Greenwich Ave., Stamford, Conn.

PHOENIX
CHEMICAL LABORATORY, INC.
Specialists in Petroleum Products
Chemical Tests • Physical Tests
Qualification Tests
3953 Shakespeare Avenue
CHICAGO 47, ILL.

Arthur D. Little, Inc.

ADL offers experience and capability in:
- Corporate Planning and Organization
- Advanced Research and Engineering
- Product Research and Development
- Production Engineering
- Market Analysis and Sales Planning

ADL scientists and engineers work closely with client organizations in performing assigned work through any desired stage of development.

Consultants to Industry
SINCE 1886

Cambridge • New York • Chicago • Washington
San Francisco • San Juan • Edinburgh

About AIC Members

Harry B. McClure, Hon. AIC, vice president, Union Carbide Corp., New York, N. Y., will receive the Chemical Industry Medal of the American Section of the Society of Chemical Industry, "in recognition of his outstanding contributions to the development and progress of the chemical Industry." The presentation will be made on October 16.

Kenneth H. Klipstein, F.A.I.C., executive vice president, American Cyanamid Co., New York, N. Y., is a member of the board of directors of the newly-established Newark College of Engineering Research Foundation, Newark 2, N. J.

Dr. Alexander Silverman, Hon. AIC, professor and head, Chemistry, emeritus, University of Pittsburgh, announces, as president of the Commission on Inorganic Nomenclature of The International Union of Pure & Applied Chemistry, that the 1957 revision of rules in this field has just been published by Butterworths, Inc. of London. He attended the sessions of The International Union in Munich, Germany, in August and also the sessions of the International Congress of pure and applied chemistry which followed.

Dr. George G. Oberfell, F.A.I.C., of Bartlesville, Okla., will receive the Walton Clark Medal from The Franklin Institute, Philadelphia 3, Pa., on October 21. He is cited for "his significant contributions to the development of liquid petroleum gas as a source of domestic fuel."

Prof. Herman F. Mark, F.A.I.C., has been named to the board of directors of Western Petrochemical Corporation. He is director of the Polymer Research Institute of the Polytechnic Institute of Brooklyn, New York.

Richard L. Moore, F.A.I.C., is now manager of Chemical Public Relations for W. R. Grace & Co., New York 4, N. Y.

James F. Merle, A.A.I.C., is now a process engineer with Stauffer Chemical Co., Niagara Falls, N. Y.

(*And see pp.* 378 *and* 380)

Twin Ladders to Success

(How Sun Oil Reorganized Its Research and Engineering Department)

Dr. Charles L. Thomas, F.A.I.C.
Scientific Advisor, Sun Oil Company, Philadelphia 3, Pa.

TRADITIONALLY, Sun Oil Company has pressed hard on the development of new products and processes as the basis for continuing corporate growth. The Research and Engineering Department always has provided the fundamental technical investigation that backs up improved methods at the company's three refineries and opens the way for the manufacture of new or improved products.

But in the shuffle, we often found that a great many of our top scientists became hopelessly bound up with administrative and supervisory responsibilities. And as these responsibilities grew, their bench-time dwindled.

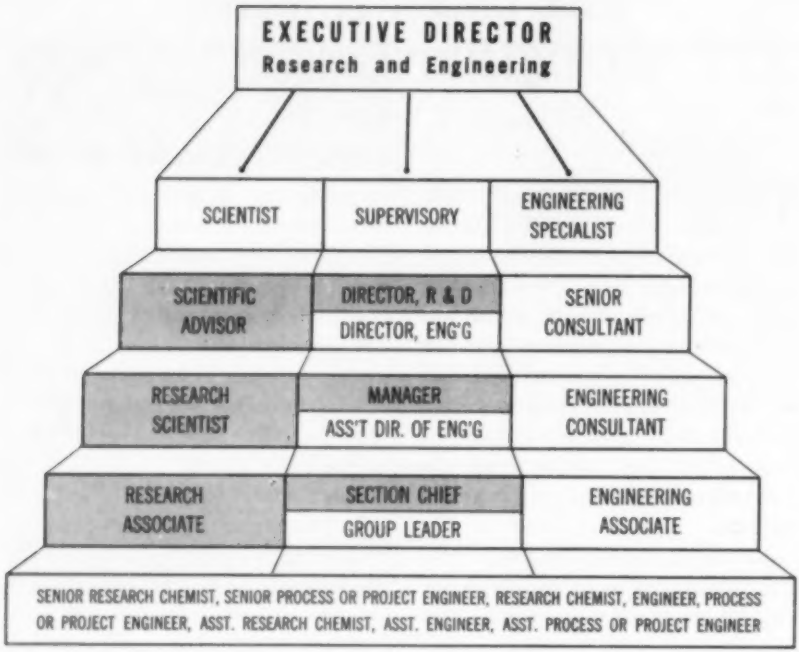
Furthermore, the rapidly-growing staff created the need for additional research supervisors. Naturally, it was the chemists and engineers who were producing outstanding results who came to the attention of management, and when the time came for promotion into supervisory positions, they were those who were selected. This was as it should be, because every chemist and engineer wants to have a boss who is capable of understanding and appreciating his work and who knows how it can best be applied.

Until recently, however, researchers could only be advanced through these supervisory positions. Now the Research and Engineering Department has eliminated that "fork-in-the-road" where its scientists had to decide once and for all on either a strictly technical or an administrative career. They no longer have to assume increasing supervisory responsibilities to get ahead.

The newly-reorganized Research and Engineering Department now is able to take a fresh look at its personnel and give them opportunities in a way that will insure the greatest benefit for both the researcher and the company. Researchers now travel what we call our "twin ladders to success." It is a rare combination of "back-to-the-barn-loft" atmosphere in multi-million dollar research accommodations.

There are really two sets of "twin ladders" within the Research and Engineering Department, one representing the Research and Development Division; the other the Engineering Division.

Within each division, there is a "specialists" and "supervisory" ladder. The two are analogous, each rung on the specialists, or scientific, ladder corresponds to a rung on the supervisory ladder. Salary brackets and



privileges are essentially the same for persons on corresponding rungs.

Researchers on the specialists ladder report to the next higher line supervisory. (As scientific advisor, I report to Chalmer G. Kirkbride, executive director of the Research and Engineering Department.) Research scientists report to the director of research and development; research associates report to a manager in research and development.

Scientists and engineering specialists also provide technical and scientific leadership to others in the Department who want it, whether they are in the line organization or on the specialists ladder. Thus, the technical leader is expected to help develop younger researchers and engineers into future leaders, while at the same time catalyzing their present work and thinking.

It is a deliberate part of this method of organization that the inspirational technical leader need not be the controlling leader. We expect our young engineers and scientists to develop faster and get more satisfaction out of their work as a result of having access to the more-scientifically mature seniors. At the same time, we are sure the specialists will get tremendous reward from seeing the

younger men grow, mature, and become leaders in their own right.

The ceiling for advancement on these "twin ladders" was deliberately set high enough so that careers in the Research and Engineering Department would be attractive to both research-minded scientists and engineers as well as to administratively-inclined technical people.

A position on any of these ladders represents an opportunity to get ahead; it is not an award for past performances. On the specialists ladder especially, there is an opportunity to become internationally known in a chosen field of research. On this ladder, we judge an individual's success primarily in terms of scientific and technical accomplishment; consulting is minor. He is expected to be generative and to go on being generative. As a matter of fact, the scientist who sets himself up in an office as a consultant and waits for business to come to him would be regarded as a failure.

Our research people have found that our organization is now more flexible, that it goes a long way toward expanding their career goals. They know, too, that they are not irrevocably committed to a career on any one ladder. Transfers between specialists and supervisory ladders are available according to research requirements and career considerations.

There have been a lot of nice comments from our staff about the new set-up. Specialists are happy that they have been freed of administrative distraction; those on the supervisory ladder enjoy the unrestricted technical attention given to specific research projects—and all the while the work of the Department is moving rapidly ahead.

Streamlined as it now is, Research and Engineering's new organization is simply an extension of the long-held belief by Sun management that research is people. Research is ideas. Research is solving problems. And only people can have ideas and solve problems. We believe this realignment of responsibilities within our Department presents our scientists and engineers with greater opportunity to solve these problems and at the same time carve out for themselves national or international reputations.

Note: Readers of THE CHEMIST may recall that when Dr. Thomas received the Honor Scroll of the Pennsylvania AIC Chapter (CHEMIST, March 1957), he said: "All of us realize that the more the chemist or engineer advances along administrative lines, the less he uses his chemical or engineering creativity . . . Let us help the real chemist keep on being a real chemist by not diverting him into channels which do not come naturally to him. Let us help him do the creative work society needs."

ROBINETTE RESEARCH LABORATORIES, INC.

Industrial Research • Consultation
Technical and Economic Surveys
Product Development
Chemical Market Research

16 East Lancaster Avenue
Ardmore, Pa. Tel. Midway 2-6457
Member Amer. Council Ind. Labs.

Annual Reports

(Presented at the 36th Annual AIC Meeting)

Report of the Chairman of The Board of Directors 1958-1959

Five meetings of the Board of Directors of THE AMERICAN INSTITUTE OF CHEMISTS were held during the year.

A Budget was approved at the beginning of the fiscal year. Slight reallocations of funds were necessary from time to time, and these were made where needed.

Toward the end of this year, it became apparent that the new postage rates as well as the increasing costs of supplies and services would require an increase in revenue, if the AIC were to operate as effectively in the 1959-60 fiscal year, beginning May 1, 1959. Therefore, the Board recommended to the National Council that a modest increase in dues and advertising be made, and that dues rebates to the Chapters be increased. These recommendations were adopted by the Council.

The Treasurer presented financial reports and comparative statements of income and expenses with the budget figures at each Board Meeting. These were found to be in order and were approved.

Extra funds not needed at the beginning of the year were transferred to a savings account, to earn bank interest until they were needed for operating expenses.

The Board also recommended to the Council that Emeritus membership be given to those who were entitled to it, after reviewing the list of applicants for this status.

—Dr. Henry B. Hass
Chairman of the Board

Report of the Committee on Chapter Activities

Objective

Predecessors committees have dealt with many phases of chapter operations. In 1957, under the chairmanship of Dr. Maurice J. Kelley, the Committee published an outstanding "Manual of Chapter Operations." In 1958, under the chairmanship of Dr. Edmund Field, the Committee presented an excellent survey of (*a*) Chapter Meeting Programs; (*b*) Chapter Projects, and (*c*) Chapter Communications—with members, with other chapters, and with the national organization.

President Ott asked the present Committee to consider the establishment of new chapters as a primary goal . . . to make it possible for more of our members to participate actively in the AIC program . . . The Committee selected a goal of 25 Chapters to be in operation or approved by the time of the National Meeting.

Composition

To make the Committee as representative and as effective as possible, the chairman requested each chapter to appoint its representative on the Committee, and invited others who were interested in the formation of new chapters to serve. The Committee is composed of:

Martin B. Williams (Alabama Chapter), Chairman.
Robert E. Lacey (Alabama Chapter), Secretary.
Dr. L. F. Pierce (Western Chapter).
Dr. Ludwig Rosenstein (Western Chapter).
Perry G. Vlacos (Western Chapter).
Dr. Hugh S. Carroll (Western Chapter).
Dr. Stephen D. Bruck (Delaware Chapter).
Arthur D. Etienne (Washington Chapter).
David H. Killeffer (Florida Chapter).
Dr. C. B. Pollard (Florida Chapter).
Angus J. Shingler (Piedmont Chapter).
Dr. Alfred E. A. Hudson (Piedmont Chapter).
Dr. John A. Southern (Piedmont Chapter).
Herbert F. Schwarz (Chicago Chapter).
Harold A. Levey (Louisiana Chapter).
Norris W. Matthews (Baltimore Chapter).
George H. Taft (New England Chapter).
Lawrence H. Flett (New England Chapter).
John M. O'Neill (Michigan Chapter).
Albert C. Holler (Twin City Chapter).
Dr. Rudolph Seiden (Midwest Chapter).

Dr. Delmer L. Cottle (New Jersey Chapter).
Dr. Lewis R. Fibel (New York Chapter).
Ray F. Seifert (Niagara Chapter).
Clark E. Thorp (Upstate New York).
Merle E. Sibert (Ohio Chapter).
Dr. John J. Bohrer (Pennsylvania Chapter).
John H. Nair, III (Pennsylvania Chapter).
Dr. James E. Magoffin (Tennessee Chapter).
Charles Holdt (Tennessee Chapter).
Dr. Joe W. Johnson (Southwest Chapter).
Dr. Pauline Berry Mack (Southwest Chapter).
Phil T. Pafford (Southwest Chapter).
James E. Henning (Wisconsin Chapter).

New Chapters Established

Piedmont Chapter: Includes Georgia, South Carolina, North Carolina. Preliminary meetings held in Atlanta in March 1958, attended by Past President Nair and Martin Williams and Oscar Hurtt of the Alabama Chapter; and in May, 1958, when Past President Hass addressed the group. Approximately 50 persons attended the Charter Day Banquet at Atlanta, Oct. 23, when President Ott presented the Charter. Dr. Nair and Mr. Williams were among the guests at this banquet and at a luncheon given in honor of Dr. Ott by Dr. Orville E. May. Spark-plug of the group has been A. J. Shingler. Others who played a leading role include: Dr. Charles T. Lester, Dan L. Henry, Dr. May, and the late Dr. J. M. Dalla Valle. Membership has increased from 53 to 75 . . .

Midwest Chapter: Following the Los Angeles Annual Meeting, Dr. Rudolph Seiden contacted the chairman about the formation of a Chapter to be composed of members in Kansas City, Mo., and Kansas City, Kan. The chairman suggested the inclusion of all of Missouri and Kansas. Dr. Seiden upped the bid to include Nebraska and Iowa. He then invited all members in the four-state area to an informal meeting at his home in September. Members from three of these states came. With the able help of Dr. Vanston H. Ryan, Daniel J. Sullivan, Dr. Frank A. DeMelfy, and Dr. A. Ernest MacGee, the group was well under way by the date of its Dedication Meeting at Rockhurst College, Kansas City, Mo., Nov. 13, which was attended by Dr. Ott and Mr. Williams. Colorado was added to the Chapter area in December. The Chapter numbers 77, and includes 11 new members who have joined since the Charter meeting. Dr. Seiden has said, "Getting new members is easy," and has used an abstract of the Code of Ethics in explaining the objectives of the AIC to prospective members.

Delaware Chapter: This Chapter was formed through the efforts of Dr. Stephen D. Bruck, with the help of Dr. Walter W. Thomas, Dr. William H. Jobling, and Dr. Joseph Iannicelli. President Ott presented the charter at the Charter Dinner Meeting, Jan. 19, at Lord De la Warr Hotel, Wilmington. Membership has risen from 40 to 50 during the four months of the chapter's existence. The Council of the Delaware Chapter has adopted a comprehensive Program of Objectives. (See THE CHEMIST, May 1959, p. 179.)

Southwest Chapter: Started as a Houston Chapter at the suggestion of Phil T. Pafford, later enlarged to include Texas, Oklahoma, and New Mexico. The petition of this chapter was approved by the National Council in December. Membership is dispersed over a wide area and as additional membership is secured, additional Chapters are to be established. Spearhead of the group has been Mr. Pafford, assisted by Dr. Joe W. Johnson and Dr. Pauline Berry Mack.

Upstate New York Chapter: Petition approved by Council, May 6, 1959. Includes area north and east of a line running from Oswego to Syracuse, east to Utica, Northeast through Glens Falls, on to New York-Vermont border. This might be called the Beaver Falls Chapter, as the largest number of petitioners, six, are from that town of 640 population, which a few months ago had not a single AIC member, until Clark Thorp, chairman-elect of the Chicago Chapter, moved to Beaver Falls and zealously promoted the AIC. No town in the U. S. can equal Beaver Falls' record of percentage of its total population who are AIC members (although the Committee hopes that AIC members throughout the U. S. will follow Mr. Thorp's example.) He was assisted by Ray F. Seifert of the Niagara Chapter . . .

Florida Chapter: Petition approved by the National Council on May 6. Includes all of Florida, except the "panhandle"

west of the Appalachicola River . . . The Florida Chapter has been discussed for two years, but not until D. H. Killeffer agreed in early March to undertake the formation of this Chapter, had we been able to find the "right man." In a month, he obtained sufficient signatures for the petition, and 62% of those living in the area have indicated their willingness to participate. The Chapter plans to hold its Charter meeting this fall, and Mr. Killeffer has obtained promise of support from the Clearwater Chamber of Commerce to make this meeting a "big affair." Others who have helped with the formation of a Chapter in Florida are Dr. C. B. Pollard, and Dr. W. L. Tanner, AIC Charter member.

Tennessee Chapter: Petition approved by the Council on May 6. Area includes the state of Tennessee, part of which had been in the Ohio Chapter, and part in the Alabama Chapter. Both these chapters supported the formation of the new chapter. Spark plugs in getting Tennessee members interested have been Charles Holdt and Dr. J. E. Magoffin.

Wisconsin Chapter: Petition approved by Council on May 6. Area includes Wisconsin, formerly part of Chicago Chapter, which has agreed to the formation of this new chapter. James E. Henning is the person to be congratulated for contacting all of the Wisconsin members, and doing the other work incident to the submission of the petition. This Chapter will probably follow the plan used by the Alabama, New Jersey, and Ohio Chapters, of alternating meetings between two or more cities.

Michigan Chapter: Petition approved by Council on May 6. Area includes state of Michigan. Work of organizing group was handled jointly by Herbert F. Schwarz of the Chicago Chapter, who wrote all Michigan members, and John M. O'Neill, who recently moved from Alabama to Detroit, who has contacted Detroit members.

Other Areas Where Work Toward Formation of New Chapters Is In Progress

North Carolina: Dr. Alfred E. A. Hudson has contacted North Carolina members by mail and in person, and has obtained a number of signatures on the petition.

Virginia: Organization of chapter initiated through Arthur D. Etienne of the Washington Chapter. Richmond area members have been contacted by Dr. James W. Mullen, II, of Richmond, and Dr. Carl J. Wessel, chairman of the Washington Chapter.

Connecticut: The New York Chapter Council has approved formation of a separate chapter in Connecticut, and Dr. Kurt S. Konigsbacher has agreed to contact Connecticut members. Dr. Lewis R. Fibel assisted in formulation of plans.

San Francisco: This will be the chapter with the largest area. It will include most of the area, but only about one-fourth of the membership of the present Western Chapter, which has endorsed the idea of forming a separate chapter in the San Francisco area. Dr. Ludwig Rosenstein has contacted 37 members living in the Bay area, but did not obtain as enthusiastic an initial response as he desired. Within the past few weeks, members in San Francisco and Sacramento, Utah and the Philippine Islands have indicated to this Committee their interest in the proposed new chapter.

Pittsburgh: A meeting of the Pennsylvania Chapter was held in Pittsburgh, April 2, with Dr. Ott as speaker. Spark plug of Pittsburgh members has been John H. Nair, III, who contacted members and handled arrangements for the meeting. Philadelphia members who assisted were Dr. James L. Jezl and Dr. John J. Bohrer. Dr. Robert W. Freedman has been invited to assist in its organization. (Note: Since this report was written, the Pittsburgh Chapter has submitted its petition for a Chapter, and the petition was approved by the National Council.)

Scranton & Wilkes-Barre: Local members discussed the possibility of a chapter last summer with Hillary Robinette. Dr. Bohrer is investigating the possibility of forming a chapter here.

Northern New England: Lawrence Flett, former AIC president, has agreed to contact members in Vermont, New Hampshire, and Maine. The small AIC membership here is widely dispersed, but with "Mique" Flett running the show, we can be sure of ultimate success.

Summary of Accomplishment: Nine new chapters in operation or approved by Coun-

cil; steps toward formation of chapters undertaken in 7 other locations.

Publications

A petition form, chapter questionnaire and Committee directory have been reproduced at no cost to the AIC by the Southern Research Institute of Birmingham, Alabama. (Copies of these publications can be obtained from the Committee Chairman.) The Committee's thanks for the preparation of these materials go to Dr. Charles E. Feazel, past chairman, Alabama Chapter, and to Robert E. Lacey, secretary of this Committee.

Cost of Operation of Committee

The Committee has been fortunate in having a budget of $500. Actual expenditures have been approximately $540.

Time Spent: Approximately 400 hours by chairman; untold additional hundreds of hours by members of Committee.

Recommendations

It is recommended that the goal reported by the Committee for the Implementation of AIC Objectives, under the chairmanship of Dr. Lloyd A. Hall: "Every member get a member," be adopted and enthusiastically supported by the entire INSTITUTE. In this way, we can reach a membership of "6000 in '60." As a further end toward an increased membership, the formation of a "200 Club" is recommended. This will be composed of 200 AIC members, each of whom will agree to do his best to secure 10 new qualified members during the year.

Several individuals have suggested that greater emphasis be given to developing a program to attract the younger members of the chemical profession, and to effectively and widely disseminate the idea that AIC membership is not just for "the upper crust" in the chemical profession, but is for all qualified chemists and chemical engineers.

It is further recommended that consideration be given to the idea of regional meetings, annual meetings (probably in the fall), to be attended by all of the chapters in a given region: East, South, Midwest, and Far West.

It is also recommended that a number of local membership campaigns be undertaken in areas where AIC membership is presently limited; and that all members of the AIC participate in making it a more effective organization, both qualitatively and quantitatively, and that individual members support the national organization in the establishment of an even greater number of new chapters during the coming year. We should have at least 50 chapters, each composed of 50 to 200 members, within a radius of 50 miles of a central meeting place.

Appreciation

The chairman has been fortunate this year in having had the support and cooperation of a large number of energetic, enthusiastic and competent Committee members. To these, to the national officers, national councilors, and officers and members of the chapters who have helped with the work of this committee, he is deeply grateful. Special thanks go to the editor of THE CHEMIST for her help in a thousand and one ways, and to President Ott, for his unfailing support and encouragement.

—Martin B. Williams, *Chairman*

ANNOUNCING!
Laboratory Apparatus
IN 'APPROVED' AND 'CERTIFIED' GRADES
THERMOMETERS · BURETTES
VISCOMETERS · PIPETTES
HYDROMETERS
Immediate Delivery from Large Comprehensive Stock
EVERY ITEM INDIVIDUALLY TESTED
For further information write:
UNITED STATES TESTING COMPANY, INC.
2040 Park Avenue, Hoboken, New Jersey
BOSTON · BROWNSVILLE · DALLAS · DENVER · LOS ANGELES
MEMPHIS · NEW YORK · PHILADELPHIA · PROVIDENCE
SAN ANGELO · TULSA

CHEMISTS • ENGINEERS

Domestic and overseas positions in research development and production; analysis and quality control up to $30,000. Many are fee paid.

BUSHER AGENCY

Chemical Personnel Specialist

131 W. 42nd Street, New York City

LOngacre 3-2366

Special Interviews After Hours If Requested

The 7th Detroit Anachem Conference will be held at the McGregor Memorial Conference Center, Wayne State University, Detroit, Mich., Oct. 26-28. Recent advances in analytical chemistry will be covered, and an instrument exhibition will be held. The Anachem Award Session to **Dr. G. Frederick Smith,** F.A.I.C., will be held at 2:00 p.m. on Oct. 27.

Dr. Henry B. Hass, F.A.I.C., president, The Sugar Research Foundation, New York 5, N. Y., recently announced that the Foundation will spend over a quarter of a million dollars on research in the U. S. and other countries during its fiscal year, which began July 1.

THE LENTO PRESS, INC.

Distinctive Printing

441 Pearl Street New York, N.Y.

WOrth 2-5977

Opportunities

Doris Eager, M.A.I.C.

Positions Available

Chemical Engineer

required by manufacturer of plastic coated fabrics. Must have wide experience in the plastic industry with expert knowledge of plastisol formulations and ability to supervise compounding room. Also must be fully experienced with and able to supervise reverse roll coater and 100 ft. fuseing oven. Initial salary $10,000 to $15,000, depending on experience. Location: Canada. Reply with full details to Box 707, THE CHEMIST.

Product Research and Development Chemist

Experienced in addition (vinyl) polymerization, other polymers, or organic synthesis. To undertake applied experimental work in the field of insulating materials. Product research and development, not pure research. Ph.D. preferred. Location: Northeastern U. S. Salary open. Inquiries will be treated in strict confidence.

Polymer Chemist

To undertake applied experimental work toward defined targets in industrial paint field. Product research and development—not pure research. Ph.D. preferred, experience in application of polymers, etc. in paints for industrial uses. Location, New England. Salary open. Inquiries will be treated in strict confidence.

WESTON RICHARDSON & ASSOCIATES
50 E. 41st St., New York 17, N.Y.

Paint Applications Specialist for applying industrial finishes. Some travel. Broad knowledge of modern paint application methods. Location in Eastern Mass. Salary to $8,500. Box 103, THE CHEMIST.

Communications

No Corporations in Russia

To the Editor:

Regarding the item "MCA Looks Abroad" (*Chemical & Engineering News,* June 22, 1959, p. 22) and "MCA Backs Barter," (*C & EN,* Aug. 3, 1959, p. 26) it is understandable that U. S. Corporations, some with foreign subsidiaries, fear trade with Russia.

There are no corporations in Russia: Neither industrial corporations, banking corporations, insurance corporations, religious corporations or chemical corporations. Communism is a No Corporations way of life. And the Cold War is essentially a war; to make the world safe for corporations.

There is just so much footing or real estate on earth. Clearly every time the Communists gain a square mile it means a square mile less for the corporations of the free world to operate in.

The strange thing is that you cannot kill a corporation, any corporation, British, German, French, etc., with a Hydrogen Bomb. For although it is a being with a perpetual life, its corpus is not mundane.

A real problem is how to blend these divergent ways of life with the Biblical truth, namely, "All that believed were together; and held all things common."

If scientists are seekers of truth, they should seek truth in all things, and not only truth in their particular scientific activity.

—Dr. Frank Makara, F.A.I.C.
New York, N. Y.

Surfactant Success Story

To the Editor:

It may be of interest to people in the surfactant field to read the article on "Specialty Surfactants" (*Industrial & Engineering Chemistry,* July). It describes the remarkable growth experienced by a small manufacturer, Process Chemicals Co., in the surfactant field, by virtue of great diversification in products used by West Coast cosmetic, packaged detergent, and chemical specialty producers.

The article, one of a series of joint staff-industry reports, is the combined effort of David E. Gushee, *I & EC* associate editor, and Oscar L. Scherr, F.A.I.C., research director of Process Chemicals.

—Riva E. Katzman
Santa Fe Springs, Calif.

Interesting Journal

To the Secretary:

I wish to acknowledge with thanks the receipt of my certificate of membership. I am also receiving monthly THE CHEMIST which I find to be an interesting journal.

—Dr. R. S. Manly, F.A.I.C.
Westwood, Mass.

Pleased with AIC Progress

To the Editor:

I have noted with pleasure the high standard of excellence of THE CHEMIST, as well as the growth in numbers and influence of our AIC . . .

—Dr. G. A. Abbott, F.A.I.C.
Grand Forks, N. Dak.

Beaumont Thomas, F.A.I.C., director and vice president for development & research, The Stebbins Engineering & Manufacturing Co., Watertown, N. Y., was cited by the American Society for Testing Materials, at its 62nd Annual Meeting, "in recognition of faithful and constructive leadership in all of the technical work of Committee C-3 on Chemical-Resistance Mortars, and for administrative support as secretary and chairman of this committee."

Prof. Frederick W. Bauder, F.A.I.C., is supervising the "Basic Coatings Laboratory," developed by Newark College of Engineering, Newark 2, N. J., in cooperation with the New York Paint & Lacquer Association and the New York Paint & Varnish Club.

Roger Williams, Jr., M.A.I.C., president, Roger Williams Technical & Economic Services, Inc., Princeton, N. J., addressed the Societe de Chimie Industrielle in Paris, in June, on "Chemical Market Research: an International Aid to Management."

R. STECKLER LABORATORIES
19220 Miles Ave. Cleveland 28, Ohio
Montrose 3-6575
Research • Product Development
Consultation • Market Research
Product & Process Evaluation
SYNTHETIC RESINS, POLYMERS, COATINGS
Fully Equipped Laboratory

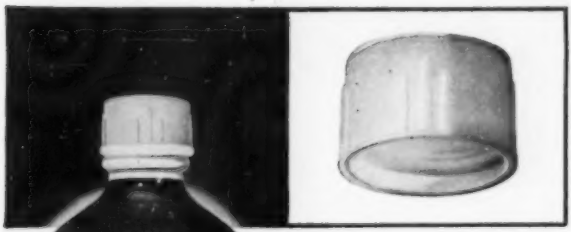
Prof. J. W. Perry, F.A.I.C., director, Center of Documentation & Communication Research, Western Reserve University, Cleveland, Ohio, prepared an abridgment of his two textbooks on Scientific Russian, for *The Chemical Bulletin,* in serial form. These articles have been reprinted into a pamphlet which is available for $1.00 from the bulletin at 86 East Randolph St., Chicago 1, Ill.

Dr. Marion B. Geiger, F.A.I.C., director, General Development Hooker Chemical Corp., Niagara Falls, N. Y., announces that the company has established an office at 16 Stratton St., London W.1, England.

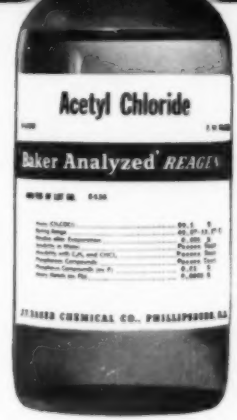
laboratory services for the
FOOD and DRUG INDUSTRIES
Drug Evaluation, Food Additive Studies, Chemical and Biological Assays, Clinical Studies, Research
LaWALL & HARRISSON
Div. B, 1921 Walnut St., Philadelphia 3, Pa.
LOcust 3-4322

NEW *for* CORROSIVE LIQUIDS

J. T. BAKER'S "EASY OFF–EASY ON"



Plastic Bottle Cap



- **TIGHT SEAL AND RESEAL**
- **NO PLASTER TO CRUMBLE**
- **NO GLASS AMPOULE NECK TO BREAK**

You'll like the new J. T. Baker "easy off–easy on" Kel-F® cap for corrosive and atmosphere-sensitive liquids. With a twist, the cap is off. Merely twist again to make a tight reseal. It's easy, quick and safe – no fuss, no nuisance, no bother. Just use as you would any screw-type closure. Note these features:

1. **TIGHT SEAL** when bottle arrives at your laboratory, special inert plastic protects purity.
2. **EASY OFF!** Simply unscrew the Kel-F cap and chemical is ready to pour.
3. **STRONG, SAFE!** Kel-F cap won't break if dropped, won't break in your hands. Inner liner of resilient Kel-F helps prevent leakage of liquid or vapor. No spurt or splash when pouring.
4. **EASY ON!** To effect a tight reseal, simply screw the Kel-F cap back on the bottle as you would any screw-type closure.
5. **EASY STORE!** Bottles sealed with the new Kel-F cap and inert are not oversize. Tight seal reduces the nuisance of storing under a hood.

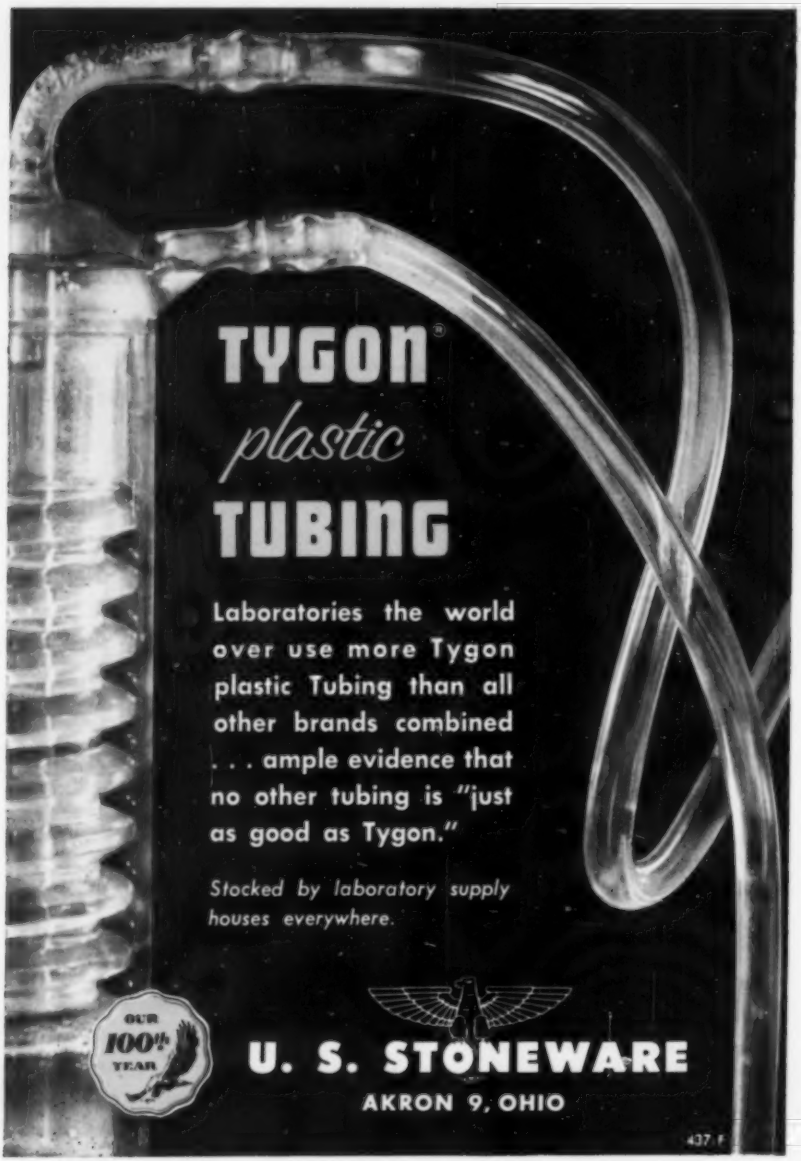
The following J. T. Baker chemicals will be packaged with an "Easy Off – Easy On" cap:

Acetyl Chloride, Reagent
Antimony Pentachloride, Reagent
Benzoyl Chloride, Reagent
Bromine, Reagent
Bromine, Purified
Phosphorus Oxychloride, Reagent
Phosphorus Trichloride, Reagent
Stannic Chloride, Reagent, Anhydrous
Selenium Oxychloride, Technical
Thionyl Chloride, Purified

THE NEW "EASY OFF EASY ON" Kel-F CAP... ANOTHER J. T. BAKER "FIRST" IN PACKAGE DESIGN TO MAKE YOUR JOB EASIER AND SAFER.

®Registered trademark of the M. W. Kellogg Co. for a polychlorotrifluoroethylene.

J. T. Baker Chemical Co.
Phillipsburg, New Jersey


TYGON®
plastic
TUBING
Laboratories the world over use more Tygon plastic Tubing than all other brands combined . . . ample evidence that no other tubing is "just as good as Tygon."
Stocked by laboratory supply houses everywhere.
OUR 100% YEAR
U. S. STONEWARE
AKRON 9, OHIO
437 F